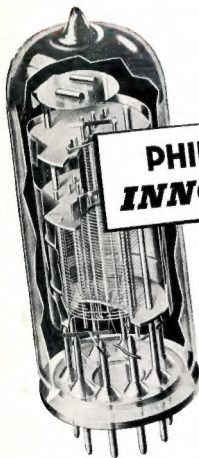


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JANUARY  
1951

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA



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# AMATEUR RADIO

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## EDITORIAL



In this issue of "Amateur Radio" you will read with interest of the terms and conditions under which you may serve in the R.A.A.F. as a member of the Reserve.

The need is for men of all ranks and grades of experience, and the purpose of the Reserve is to create shadow forces which will be capable of quick expansion into a formidable fighting force should the occasion demand.

The article under review is clear and concise and is now put

forward for your careful consideration, bearing in mind that history seems to be slowly repeating itself and that help, to be valuable, should be given early. Any future conflicts will have a large "electronic content" and as known from experience, the value of a smoothly working communication and radar system cannot be underestimated. It is hoped that the scheme as now presented will provide the opportunities for service for which the Institute has so long been asking.

—Federal Executive.

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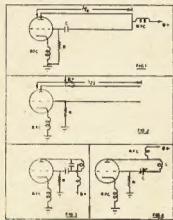
# Using Tubes Above Their Self-Resonant Frequency

BY A. K. HEAD,\* VK3AKZ

## THE COLPITTS OSCILLATOR

To start the ball rolling, let's have a look at the usual form of v.h.f. single tube oscillators (Fig. 1). This is a Colpitts type circuit with a linear quarter wave line as tuned circuit. The feed back is provided by the interelectrode capacities (i.e. is conveniently built-in) and can be varied over a certain range by the r.f. choke in the cathode lead. As you know the quarter wave line is less than a physical quarter wave long due to the end loading effects of the grid-plate capacity.

Now when the frequency is raised by moving the shorting bar in towards the tube, either of two things will eventually happen. With a lot of tubes, as the frequency is raised, oscillation gets weaker and weaker and finally conks out. This will happen with low transconductance tubes with bases, etc., and what has happened is that the gain of the tube has dropped (because of transit time effects, etc.) until it is less than the losses of the circuits. Hence no oscillation and nothing can be done about it except maybe to pulse the tube with a higher anode voltage.



On the other hand with close spaced high transconductance v.h.f. type tubes, it may be found that the tube is still oscillating merrily with the shorting bar as close to the tube as it can get. This situation is what the tube handbooks mean when they talk about the self-resonant frequency of the tube. The only thing preventing operation at a higher frequency is the fact that you can't get the shorting bar inside the tube.

But by using a half wave line (Fig. 2) this can, in effect, be done. Fig. 2 has been drawn to emphasise the internal plate and grid leads and it is easy to see that as the frequency is raised by shortening the lines it does not particularly matter if the electrical mid-point of the line is inside the tube. If

One of the main barriers to the population of the Amateur v.h.f. and u.h.f. bands is the lack of suitable tubes. Although there are tubes in existence for all bands, it is another thing to obtain them (and another one again to pay for them). This article aims to pass on some suggestions which may be helpful in raising the useful frequency limit of tubes you may have on hand. How far up the limit can be pushed is for you to find out.

this is the case, then the grid-plate capacity and the lead inductance account for more than one quarter wave length and effectively the shorting bar (i.e. the electrical mid-point of the line) is inside the tube. Thus by using half wave lines the frequency limit can be pushed above the self-resonant frequency of the tube.

As a practical example, for a 955 in a standard ceramic socket, the self-resonant frequency is about 580 Mc. It will oscillate quite well, but there is no external circuit to couple into and no easy way of tuning. By using a half wave circuit (of which about one quarter wave is inside the tube and one quarter wave outside), a useful oscillator results which can be tuned across the 580 Mc. band by swinging a block of polystyrene in between the open ends of the line, thus changing their effective length.

## LUMPED CONSTANT CIRCUITS

As line circuits are often inconvenient to tune smoothly for receiver applications, lumped constant circuits are often more convenient. The equivalent to a quarter wave line is a parallel tuned circuit (Fig. 3), and the equivalent to a half wave line is a series tuned circuit (Fig. 4).

As an example of how a series tuned circuit will permit a tube to operate above its self-resonant frequency, a 7193 was used with the circuit of Fig. 5. This differs from Fig. 4 in having the external inductance divided into two parts, but both are essentially the same circuit. "C" was a Philips' concentric trimmer and L1 and L2 represent the inductances of  $\sim 1.5$  of 10 gauge wire running from the grid and plate terminals of the condenser.

Now the self-resonant frequency of a 7193 is about 350 Mc., and it was found that the above circuit gave continuous operation from 250 Mc. up to 450 Mc. as the trimmer was unscrewed. This limit of 450 Mc. was not due to lack of external circuit (the trimmer had a capacity of about 8 pF. at this stage), but the gain of the tube had dropped too much to support oscillation. If the

high tension was increased to 400 volts it would operate at a higher frequency but the plate dissipation became too high. In such a case, the previous remark about pulsing the tube might be useful.

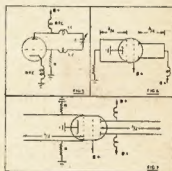
Incidentally, the equivalence between a half wave line and the series tuned circuit might be seen more easily by comparing Fig. 5 with Fig. 2.

## OTHER APPLICATIONS

If in Fig. 4 the resistor between grid and ground is removed and a large resistance is connected across the tuning capacitor, then a superregen. receiver results. One disadvantage is that the quench frequency will vary as the condenser is tuned, but VK3NW has used this idea successfully on 580 Mc. with a lighthouse tube.

It will be seen that for a single tube, the series tuned circuit has the advantage of not requiring a d.c. blocking condenser. But for push pull circuits the parallel tuned circuit has the simpler d.c. connections, as illustrated in Figs. 6 and 7 of a push pull p.a. However, the series tuned (or half wave) circuit has the advantage of leaving more of the circuit outside the tube and so is easier to couple into.

Thought for today: "If you want to go higher, try series tuning."



## RECEIVING S.S.C.

Readers may be interested in one method used by 6WZ for receiving s.s.c. Finding the receiver b.f.o. unreliable and the Class C Wavemeter too jerky in its tuning (who hasn't), the v.f.o. was used recently to copy the first W.A. station to use this transmission (VK6EC) and it worked very well. If yours is a multi-stage v.f.o. arrangement switching so that you can select "osc. only" or "osc. and buffers" at will. This should give you sufficient control over the amount of carrier re-insertion.

If your v.f.o. drifts so that it's hard to keep the s.s.c. tuned in, it's time you had a new v.f.o. anyway—and if it's as stable as it should be, you'll have effortless copy of s.s.c. transmissions.

—R. H. ATKINSON, VK6WZ.

\* Asst. Technical Editor, 12 Peverill St., Balwyn, E.S., Victoria.



# The Theory and Design of Speech-Clipping Circuits

BY K. C. SEDDON,\* VK1ACS

Before building myself a modulator, I came across an article describing the theory and design of speech-clipping circuits. Being very impressed by the theoretical advantages, I decided to incorporate a similar unit when I eventually built my own modulator, and on completion it has been extremely successful.

The advantages are as follows:—

- Impossibility of overmodulation.
- Increased average level of modulation, giving effect of higher power.
- Increased intelligibility of speech and freedom from hum pick-up is obtained by the removal of the high and low audio frequencies.

A study of the way intelligibility is conveyed by speech has shown that the major power carrying components in speech are the vowel sounds (or semi-vowels such as l, m, and n). These give character to speech and a general outline of the intelligence. However, it is the consonants, which are much lower in power, that enable words with the same basic vowel sounds to be distinguished.

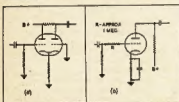


Fig. 1.—Types of Peak Clipping Circuits.

If the peak sound only is limited, the sounds immediately following the peak will be unaffected and the relative amplitude of the low level sounds increased. The fact that the vowel sounds are so basic and characteristic makes them easily recognisable in spite of the decrease in their relative amplitude. The effect is a considerable increase in the apparent volume with some distortion introduced due to the limiting of the peak sounds.

It can thus be seen that this method has more advantages than volume compression, as in volume compression the sounds immediately following the peaks are also reduced in amplitude and where they are consonants rendering the word intelligible, the increased level of any remaining portion of the word is of no advantage. Also in volume compression a finite time must elapse before the compressor comes into action and reduces the gain and hence initial peaks will not be reduced, thus causing over-modulation.

The process of clipping consists of squarely chopping off both positive and negative peaks at a predetermined amplitude. The harmonics present in the square-topped waves from the peak

sounds will cause distortion and also extend the transmitted sidebands and hence must be removed by a low pass filter following the clipper. With low frequency sounds, say 100 cycles, and a low pass filter cutting off at 3,000 cycles, up to the 30th harmonic of the 100 cycle sound will be retained. Therefore a high pass filter is included before the clipping stage with a cut-off frequency of approximately 500 cycles and only the 6th harmonic of this frequency will be retained and hence there will be less distortion in the output. Incidentally, this is not the only reason for including the high pass filter, there being two more important reasons.

In any stages following the clipping stage, the phase shift distortion must be as low as possible or the peak amplitude of the output from the clipper can be exceeded. This normally requires good frequency response over the audio range from approximately half the cut-off frequency of the high pass filter to twice the cut-off frequency of the low pass filter. This effect is most noticeable at the low frequency end of the spectrum and is the main reason for including the high pass filter before the clipping stage.

Peak clipping may be accomplished in several ways which may be divided into two classes:—

- Those involving the cut-off characteristic of a tube (as used in the circuit described—Fig. 1a).
- Those involving current flow in a tube when a fixed bias has been exceeded—Fig. 1b.

In the latter case, diodes or triodes are generally used and the principle is that the biased tube element offers a high impedance until the signal reaches the bias level, above which the impedance is low. By feeding the biased element

through a high series impedance no increase in output voltage will occur once the conduction point is reached. However, this type is more complex and hence the first type was used.

With up to 10 db of clipping, the distortion present is barely noticeable, while with 20 db of clipping (i.e. 10 times the audio voltage input that will give 100% modulation) the distortion is not excessive. The audio power output from the modulator is, of course, not increased by 20 db, but is increased by a considerable amount.

In addition to the increase in modulation level due to the clipper, several other advantages are claimed for the unit.

Firstly, the major part of the power in speech is below 500 cycles and it has also been shown that very little intelligence is conveyed by this portion of the spectrum. Thus, removing these frequencies, enables the modulation level of the middle range frequencies to be increased, giving a more intelligible signal.

Secondly, the higher audio frequencies above 2,500 to 3,000 cycles, while not contributing a great deal to the intelligibility, increase the bandwidth occupied and hence removing them reduces QRM. Also, removing both high and low frequencies together, retains better balance of the speech than removing highs or lows alone.

Thirdly, with low frequencies removed, no precautions against hum pick-up are required.

Fourthly, the unit described has low impedance output and can be placed well away from the modulator and transmitter without any trouble from long connecting cables, and also there is less chance of r.f. feedback if the pre-amplifier is well away from the transmitter.

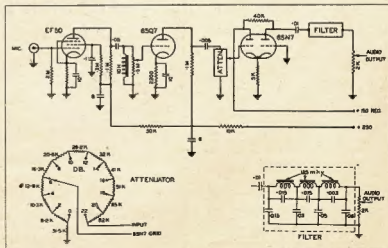


Fig. 2.

Last of all, the unit is useful when entertaining visitors with loud voices as one does not have to wind the gain control up and down to compensate for different voice levels to prevent over-modulation.

The unit described here is a modified version of a circuit described in "QST." The first stage uses any high slope pentode such as an 6X50 or 6SN7. The high pass filter is simply a 10 henry midrange filter choke in series with a 0.05  $\mu$ F. condenser connected across the load resistance of the pentode. If more lows are desired a larger choke or condenser could be used. No precautions against r.f. feedback were taken except to shield the grid lead and grid resistor of the pentode.

The next stage is a high- $\mu$  triode (6SQ7). The reasons for two high gain tubes are:—

1. The pentode has a low plate load and voltage gain is relatively low (measured gain 81).
2. The input level which the 6SN7 commences to limit the signals is approximately 4 volts r.m.s. and thus for 22 db of clipping, this means an input of over 40 volts r.m.s. to the 6SN7. (The measured gain of the 6SQ7 was 37, giving a total gain of 3,000 or 70 db for the first two tubes.)

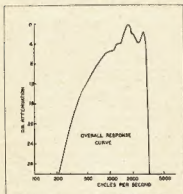


Fig. 3.—Frequency response curve of complete unit.

Following the 6SQ7 is an attenuator (Fig. 2) going from 0 to 22 db in 2 db steps. It consists of a 12 position switch with  $\frac{1}{2}$  watt resistors wired across the contacts. The resistors were picked within 1% by putting two in series where necessary, although this accuracy is not really required.

The clipping is done by the cathode coupled 6SN7, the first section clipping negative peaks that drive the grid beyond cut-off. Positive peaks produce positive peaks across the cathode resistor and cause the second half of the tube to be driven beyond cut-off, hence clipping the positive peaks. Originally, the 150 volt supply for the 6SN7 clipper was obtained from a voltage divider, consisting of two 50,000 ohm resistors, but it was found that the output from the unit decreased as the degree of clipping was increased. This was due to

the 6SN7 drawing higher average current when clipping and hence reducing the plate supply voltage. This difficulty was solved by using a VR150/30 in the power supply.

The three section "m" derived filter gives a very sharp cut-off at 3,000 cycles. The inductances were home-made but will be available soon from a city firm. The condensers were chosen within 1% tolerance, but probably 5% would be close enough.

The filter is terminated in a 2,000 ohm potentiometer which is placed at the back of the unit as it should not be shifted after initial adjustment unless the transmitter input is varied.

The maximum output of the unit was measured as 1.25 volt r.m.s. or 1.77 volts peak.

The unit was constructed on a 10" x 6" x 21" chassis. The low pass filter was assembled on a 9" x 3" strip of aluminium and fitted over an 8" x 2" hole cut across the chassis. The 125 mhy. chokes were wound on 7/16" diameter slug tuned formers and were mounted vertically on the 9" x 3" strip at approximately 24" centres. Originally aluminium shield cans were fitted over the chokes, but these reduced their Q and as there was no apparent magnetic coupling between them, they were left unshielded.

The adjustment of the unit is best done with a c.r.o. using a trapezoidal modulation pattern. With the attenuator switch on 22 db and the first gain control well advanced, speak into the mike and adjust the output control until modulating nearly 100% on peaks. Then put the attenuator switch to 0 db and adjust the first gain control until again nearly modulating 100% on peaks. While performing this operation, it is necessary to maintain your normal speaking conditions (voice level and distance from the microphone) and also to maintain them in the future when using the unit if you want to know exactly how much

clipping you are using at any given time. This completes the adjustment of the unit, the only control that need be touched is the attenuator when it is desired to alter the clipping level.

My own practice has been to use about 10 db of clipping for normal work and when conditions are bad to use 18 to 20 db of clipping.

Because of the high gain of the unit, it is advisable to speak fairly close to the microphone in order to keep the level of background noises to a minimum.

— . . . —

## RADIO & ELECTRONICS (N.Z.) LIMITED

The above wish to advise that as and from 1st December, 1950, they will take over the complete interest of the Australian monthly technical journal known as "Australasian Radio World."

It is their intention to produce the December issue as a composite one under the old title, and then change the name to "Australian Radio and Electronics" (incorporating Australasian Radio World) as and from the January 1951 issue.

To facilitate the above a new company known as Radio and Electronics (Aust.) Pty. Ltd. is being formed. The parent Company already produces "Radio and Electronics" in New Zealand—which also circulates on the Australian market—and it is their intention to cease importing the New Zealand Journal, and to produce the Australian edition of "Radio and Electronics" in lieu thereof, whilst maintaining the same high standard. With the close liaison with New Zealand and other overseas tie-ups, engineers, servicemen, dealers, hams and hobbyists are assured that the articles will bring to them the latest developments for the advancement of radio and electronic knowledge.

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COUNTRY MAIL ORDER SERVICE

# Some Notes on Command Receivers

BY DON B. KNOCK,\* VK2NO

Probably one of the best bargains in surplus war radio material has been the Command series of equipments, available in Australia, unfortunately in limited quantities only, but on disposals counters in profusion in U.S.A. and Britain. In case the hopeful reader may run across such receivers, especially of course, if fortunate enough to be travelling overseas, a few words about frequencies and possible Amateur usage may be of interest.

First on the list of these attractions has been the model popularised two years ago in the pages of "QST" as the "Q Fiver." This simple double conversion application to a narrow band-pass low frequency i.f. results in a high degree of selectivity, of material advantage to the 14 Mc. phone man in particular. This model is the BC453, and in passing it is worth mentioning that the circuit of all these Command receivers is the same. Each is comprised of a 6-valve superhet with one i.f. stage, mixer-oscillator, two i.f.s., detector-beat oscillator and audio output stage. BC453 tunes from 190 to 550 Kc. in the signal circuit and the i.f. is at 85 Kc. Obviously, this unit can be used in conjunction with any receiver having an i.f. falling within the 190-550 Kc. range.

## TUNING RANGE AND INTERMEDIATES

Most of our present-day single i.f. receivers are in the region of 460 Kc. With receivers of the BC348 series, however, the consideration is different, for here the i.f. is at 915 Kc., and so the "Q Fiver" of the BC453 type does not suit. There is a model that does, however, but whether or not you are likely to run across one in Australia is a doubtful point. This is the BC946B, a Command receiver that covers the regular broadcast range, i.e. 520 to 1500 Kc. The i.f. of this model is not at 85 Kc., but at 239 Kc. This is yet a low frequency and the band-pass characteristics of the i.f. amplifier are variable by push-rod operation of the coupling between primaries and secondaries as in the BC453. So, if you don't prefer to use this BC946B solely for entertainment purposes, it makes an excellent companion "Q Fiver" for the BC348 kind of receiver having i.f. at 915 Kc.

Next on the useful list of Command receivers is the BC454, and this tunes from 3 to 6 Mc. with i.f. at 705 Kc. As this stands, it will make an excellent 80 metre receiver and, of course, is applicable with crystal controlled converter ahead of it for higher frequencies in the now popular set-up. Better still, with a crystal-locked converter for 20 and 10 metres ahead of it, will be the BC455, a model tuning between 6 and 9.1 Mc. and with the i.f. at 1415 Kc. Another model, the BC495, tunes the same range and has the i.f. at 2830 Kc. A little fiddling with available crystals in relation to tuning range will reveal many useful possibilities. Remember also, that all these Command receivers follow a similar design; that both the

i.f.'s and the r.f. coils are plug-in items, and that the assembly lends itself to variations to suit one's own needs.

## POWER SUPPLIES

Valves used in the Command receivers are all 12 volt types, namely, 12SK7, 12K8, 12SR7, 12A6. They are wired in series-parallel heater connection for use from the aircraft 24 volt d.c. supply. A generator, shock-mounted at the rear, provides h.t. at 250 volts. In setting out to use these receivers on a.c., many Amateurs go to the laborious trouble of re-wiring the heaters in parallel for application from a 12 volt transformer. One might as well use two 12 volt heater transformers to give you the normally required 24 volts heater supply by seriesing the secondaries, or better still, apply a 24 volt transformer. In any case, the latter is the simplest answer, for it isn't an easy matter to get at the valve heaters for re-wiring. It entails hanging chokes and things over the sides of the chassis in order to get at the sockets. It is easy enough to make up, or get made, a heater transformer handing out 3 amperes between

24 and 28 volts. With a dry rectifier power pack to accompany the 24 volt transformer, that's all there is to it. You can, of course, if of ample rating, draw on the accompanying receiver power unit for the h.t. in which case the 24 volt heater transformer is the only item extra.

With a Command receiver powered as suggested, a converter to be used with it can draw power thence by using 12 volt valves in series-parallel heaters, or 6 volt types similarly with ballasting resistors. The Command receivers can be used without any alteration at all from a 32 volt home lighting plant, if the dynamometer on the receiver is of the 28 volt and not the 12 volt kind. Some of the receivers may have been fitted with 12 volt types and the valves wired in parallel heaters, but such instances are rare.

Finally, for the benefit of lucky people who may have acquired Command units, the most complete conversion article to be perused anywhere appeared in "Short Wave Magazine" (England) in the issue for September, 1948. This article leaves nothing to guesswork or imagination. Neither do the advertisements in the same magazine where London dealers offer the receivers in all ranges complete with valves at 25/- each—or a set of three for 70/-!!

## PROPER CARE OF CRYSTAL MICROPHONES

The following information was extracted from G.E.'s "Ham News," May-June, 1950.

Crystal microphones are likely to lose their sensitivity and frequency response during hot humid weather. Although microphones are sealed against moisture, moisture may creep in and damage the crystal element.

For some time I have noticed the modulation percentage in my transmitter gradually go down until I could barely modulate 50% with the audio gain wide open. A careful check of the speech amplifier and modulators indicated no trouble there. The microphone was then suspected because of the unusually damp weather that has existed here all summer. I was about to discard the mike or send it to the factory for repairs, but I decided to try a little stunt as a last resort.

The microphone was placed in a clean, dry, airtight can with one pound of fresh silica gel obtained from a local radio and refrigeration supply house. In twenty-four hours the mike worked as good as new; in fact, it works better now than it has in two years.

I would recommend that this trick be tried on all crystal microphones which have been subjected to excessive moisture or humidity before discarding. In fact, I believe it would be good practice to store the mike in this manner when not in use, particularly during the hot humid months of summer.—W4AEZ.

[Ed's. Note.—The following complete story on the proper care of crystal microphones appeared in a recent Electro-Voice release—Lighthouse Larry.]

"What causes crystal microphones to lose sensitivity? To answer this, let's first see what the crystal is made from. 'Rochelle salt crystals are formed synthetically. When the rochelle salt

crystal is grown, it takes four molecules of water of crystallisation for every molecule of sodium potassium tartrate. In humid climates, the crystal has the property of absorbing moisture and the result is leakage resistance or low output. Placing the microphone on carput, in a silica gel desiccator will reduce this excess moisture, but there is the possibility that if left in too long, the moisture content of the crystal might be lowered to the point of damage.

"If the humidity is less than 23% for a long period, you will get dehydration or drying out. If the temperature rises to 127°F. the sodium potassium tartrate dissolves into the water of crystallisation. In other words, if a crystal microphone gets too hot, too dry or too wet, it won't work.

"These statements seem to run down devices using rochelle salt crystals. This is not true. If the humidity is between 23% and 86%, except for brief periods, crystals will stand up fine. If the temperature is below 127°F., no trouble will result. That's why the manufacturer puts a guarantee on crystal devices and caution is given about heat. Occasionally crystals are damaged when the limits mentioned above are exceeded.

"Rochelle salt crystals are treated to prevent damage from moisture. E-V has given an additional protection for added life on crystal cartridges. The case is completely filled with silicone to prevent moisture from getting to the crystal. Leads are a bad spot for moisture to enter and the E-V silicone treatment eliminates this fault. E-V crystal devices are all thoroughly moisture-proofed research." (Electro-Voice "Report" to the Distributor, August 15, 1949. Reprinted by permission of Electro-Voice, Inc.)

\* 43 Yanko Avenue, Waverley, N.S.W.



# R.A.A.F. ACTIVE RESERVE

## ADMINISTRATIVE POLICY

1. The basic object of the Active Reserve is to enable unit commanders of certain specified units to obtain their requirements of personnel (by ranks and musters) necessary to bring their units to provisional war establishments. It is intended that these personnel should be obtained, if possible, from the local district.

2. At the present time, there should be little difficulty in securing ample numbers of war-trained men who are prepared to accept the obligation of being available for immediate call-up on mobilisation being ordered.

3. The unit commander concerned is responsible for selecting and enlisting the best available volunteers—such volunteers can be grouped as:—

- (a) Ex-R.A.A.F. personnel.
- (b) Ex-Navy and Army personnel.
- (c) Qualified men with no Service background.

It is not intended to restrict the unit commander in any way to his choice, or priority of selection of these personnel—he is expected to select the best offering. In those cases where insufficient personnel of an acceptable standard are offering locally, area commanders may obtain the units' needs from any convenient locality.

4. Some may be fully and completely qualified to fill establishment vacancies—others may not. In the case of the former, their service at units will be entirely productive. However, in the case of the latter, the unit commander will no doubt point out that he (the active reservist) will need some training

in order to qualify for his post, and that a maximum of 28 days per annum is available for him to do such training at the unit. If he cannot give the necessary time, it may not be worth enlisting him. It is imperative that it be clearly understood by all concerned that there is no fixed or obligatory period of training—the 28 days is the maximum period for which pay may be given each year.

## CONDITIONS OF SERVICE

5. Personnel will be appointed or engaged for a period of five years followed by five years on the General Reserve.

6. Personnel will be liable for immediate mobilisation in the event of an emergency or on the outbreak of war. They will be subject to such other general obligations as reservists in accordance with applicable Air Force orders.

7. Personnel in the Active Reserve will be subject to the conditions and rates of pay at present in force for members of the Active Citizen Air Force. Payment will be approved up to a maximum of 28 days per year; for attendances for periods of less than a full day, payment will be calculated on a pro-rata basis.

8. Personnel will be provided with uniforms and Service clothing rank.

9. Ranks on appointment or enlistment in the Active Reserve will be in accordance with those provided in the provisional war establishments. It may not be possible for all members to be appointed or enlisted in their former wartime ranks, but in the event of an

emergency or outbreak of war such personnel will not be prejudiced nor superseded by members who choose to remain on the General Reserve. Where a member completes his service on the Active Reserve he will be transferred to the General Reserve in either his former rank or such higher rank as he may attain whilst on the Active Reserve. Members without former R.A.A.F. service will be appointed or engaged with the normal commencement rank for the Permanent Air Force, i.e. Pilot Officers and Aircraftmen.

## PUBLICITY

10. Publicity for the Active and General Reserve will be incorporated in the Australia-wide recruiting campaign. Separate instructions have already been issued to area authorising unit commanders and area commanders arranging with State Directors of Recruiting suitable local publicity for the Active Reserve.

## RECRUITING

11. Personnel will be recruited from either:—

- (a) Present members of the R.A.A.F. Reserve;
- (b) Direct from civil life, with or without former defence service and experience.

## QUALIFICATIONS FOR APPOINTMENT AND/OR ENLISTMENT

12. Retirement will be governed by the following retirement ages:—

Rank	GD	Other Branches
Flight Lt.	45	54
Squad Leader	48	54
Wing Cdr.	53	57
Group Cpt.	55	60

Airmen: 55 years for all musters, except aircrew for whom retiring age will be 40 years.

13. Personnel selected for exclusive employment as pilots should not be over the age of 32 years at the time of appointment or enlistment.

## CIVILIAN EMPLOYMENT

14 (a). **Reserved Occupations.**—In due course it may be necessary to defer from service on the Active Reserve those persons who are in reserved civilian occupations, e.g. civil airlines, aircraft industry, etc. At this stage, however, it is not clear which persons will be prevented from leaving their occupations in the event of war. In the meanwhile, persons who would obviously be unavailable on the outbreak of war are not to be enlisted.

(b) **Employer Relationship.**—Employers are not compelled to grant leave of absence during their absence on Active Reserve service. The most that can be expected is that employers will follow the example set by the Government in releasing members of the Public Service and subsidising their pay. Personnel attending for Air Force duty, therefore, should be provided with an official statement verifying their attendance.

## MEDICAL

15. Personnel appointed or enlisted in the Active Reserve will be subject to medical fitness to the same standard as laid down for P.A.F. members of the appropriate categories or musters.

# The South African International DX Contest, January, 1951

This Contest is open to all Licensed Hammers in the world and is sponsored by the South African Radio League.

## GENERAL

1. This Contest is open to all Licensed Hammers in the world, but the prizes can only be won by a member of a recognised section of the I.A.R.U.

2. All countries as listed in the official countries list of the A.R.R.L. 1950 Handbook will be eligible.

3. The above is also the official country list for scoring.

4. The Contest will take place on 20th January, 1951, at 00.01 hours Saturday, to 24.00 hours Sunday, 24th, on c.w. only.

5. From 00.01 hours Saturday, 20th January, 1951, to 24.00 hours Sunday, 24th, on telephony.

6. The bands to be used will be the 40, 20 and 10 metre bands.

## RULES

1. A contestant is bound by the rules governing this Contest.

2. A contestant with unlicensed and Government stations is forbidden.

3. A contestant must submit log sheets which must show date, time, band and a signed declaration of the validity of the log.

bands. Rest of the world work 28 Stations only and score 5 points per station worked, with a multiplier of total number of 28 divisions worked on all bands.

10. Serial numbers will change with each contact. When you work your first station your number will be the RST report plus any three figures. Your second contact the number will be RST plus the last three figures of the first contact. You continue in use this method throughout the contest. For example:—

Number Sent 569113 Number Received 569777  
569777 569888  
569888 569113

11. Logs are to be sent to the following address: Contest Committee, P.O. Box 5911, Cape Town, South Africa, and must arrive by 30th April, 1951.

12. The declaration will be as follows: I hereby declare that my station was operated strictly in accordance with the conditions and rules of this Contest, and I agree to abide by the decision of the Chairman in the event of dispute.

13. The Log Sheets must be in the following form:—

S.A. INTERNATIONAL DX CONTEST, JAN. 1951  
Name..... Call Sign.....  
Address.....

Date and Time Cont. G.M.T.	Band Used	Call Sign	No. Best	No. Revd.	Country	Pts.
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14. An analysis must show the following:—  
Number of countries worked.  
Number of contacts.  
Number of points.  
Number of bands worked.

## PRIZES

The winners of each section in South Africa will receive a DX Cup together with a certificate. The runner-up will receive a certificate. Certificates will also be awarded to the top scorers in each country.

# N.S.W. Division Hold Field Day at Woy Woy

Once again the Annual Woy Woy Field Day (held on Sunday, 26th November, 1950) has fully maintained its reputation as one of the brightest one-day functions held in N.S.W. Active preparations commenced some months ago when that energetic trio—2KR, 2GA and 2RU—got their heads together and submitted plans to Council for the big flea. It was expected that this function would supersede last year's effort and this hope was realised when over 150 members and their families and friends turned up at Woy Woy despite the early prospect of a dismal day. Fortunately the weather turned out favourably and full advantage was taken of this.

Although timed to start at 11 a.m., there was a huge gathering of the gangs who had determined to get in early for a good "earbash" with some of the "blokes you work, but rarely see or meet." Among the registrations the following were noted:—VKs 2EF, 2AJQ, 2ACD, 2ARF, 2AXZ, 2ARY, 2OF, 2AJB, 2YC, 2HZ, 2RU, 2ZP, 2KP, 2DY, 2LY, 2GA, 2XU, 2AVO, 2AMW, 2SF, 2UY, 2AAI, 2AIO, 2AYE, 2EO, 2APY, 2ARV, 2AMM, 2WH, 2RF, 2WF, 2AX, 2YL, 2PZ, 2KF, 2CS, 2XY, 2ADT, 2KZ, 2FP, 2AHA, 2MM, 2CE, 2GW, 2ZC, 2AGD, 2VW, 2AJZ, 2WJ, 2GZ, 2XT, 2BO, 2A, 2YM, 2IT, 2PU, 2AAM, 2VI, 2MQ, 2FO, 2HO, 2AET, 2NX, 2EH, 2AOA, 2CXC, 2IO, 2RQ, 2ARN, 2YR, 2ADW, 2CZ, 2AGN, 2GH, 2ACV, 2ACW, 2AAB, 2ASW, 2VL, 2XH, 2ARD, 2LX, 2ZW, 2AEZ, 2LS.

The country zones were well represented by members from Inverell, Forbes, Dubbo, Bellingen, Cessnock, Wollongong, Coffs Harbour. An overseas visitor in the person of VK9GW was welcomed. The Newcastle gang turned out in great style under the leadership of their President, 2CS, and it seemed that the Hunter Branch were holding their annual convention.

Registration duties were ably managed by 2HZ, while President 2YC "went to town" meeting all members and interesting them in some intriguing guessing competitions. An alfresco lunch occupied the first part of the morning and, thanks to the wonderful kitchen effort of Mrs. Hardman (XYL of 2KR) and 2OF, there was full and plenty for all. Indeed, tea seemed to flow all day long and the gang took full advantage of it. For the harmonies, there was a copious supply of "lolly water" and milk.

Two transmitters were hidden for the competition, one on 144 and the other on 3.5 Mc. The hunt was started at 2 p.m. and the 144 Mc. job was unearthed by 2AAN and party in 23 minutes. Second to locate was 2AGN who arrived one minute behind 2AAN, with 2AAB close on his heels.

BY D. E. EVANS, VK2AYE

The 3.5 Mc. proposition proved a more difficult job and it took 2SF and party 70 minutes to run it to ground. In this case the runners-up were also close, 2XU completing the course in 71 minutes with 2XT a few seconds later.

The return to base was accomplished in remarkably fast time as a signal from one of the boys indicated that the broaching of a 14 watter was imminent.

An interesting innovation was the Amateur Quiz (appended herewith). This was won by 2CS who turned in 8½ correct answers out of 10, and the runner-up was 2ZC with a score of 8½.

In the L/C circuit competition, the oscillator was set on 7050 Kc. and the nearest guess was provided by 2ACW's YL who guessed 7025 Kc. Associate Horrie Oakes ran second with 7080 Kc.

A recording was played which gave short "bursts" of contacts on 7 Mc. band

and contained twenty-three voices. This was won by 2AHA with a return of 11 correct, followed by 2ADT with a score of eight.

The winners of the lucky numbers for ladies and gentlemen, call books and disposals raffles were announced.

While the above events were being completed, a lucky dip was being thoroughly explored at 8d. a dip and some of the finds turned out to be amazingly good value. There were tubes in plenty, one lucky gent pulling out a good 813 while there seemed to be an endless supply of 807s and smaller fry. Headphones also came to light and a couple of "booby" traps were unearthed. It was amazing to watch some of the "old hands" feverishly digging around in the sawdust and then taking their place in the queue for another go. While the dip was in progress, Jim Corbin gave a running commentary from the stage of the prowess of the various "dippers" and announced the nature of their finds.

Main event of the afternoon was the presentation of prizes and Jim Corbin delegated this pleasant duty to Lionel Swain, President of the Hunter Branch. Lionel prefaced the job with a happy remark or two, possibly prompted by the fact that the Hunter Branch had the almost scooped the pool and shown these city slickers a few points, and called the lucky winners to the stage for their prizes. On the completion of presentations, President Jim Corbin made a brief address, the main point of which was an appeal to the XYLs to allow the OM to be more active in the coming year—particularly as they had brought them to Woy Woy for the day!

The thanks of the Division are deservedly due to the Committee who implemented the programme—Cec, John and Major—who should be quite happy about the outcome. To Mrs. Hardman and Jack Francis, who did a trojan job in the kitchen, everybody is indebted.

The next outstanding event in the Division Calendar will be the Hamfest during the week-end of the National Field Day. An attractive programme has been arranged and it is hoped that members will endeavour to get set for portable operation on the Field Day and arrange individual picnic parties during which contacts may be made and logs recorded. The Council will appreciate an effort on the part of members to place this Division in a leading position in the Contest.

## N.S.W. FIELD DAY RADIO QUIZ

1. What was the call sign of the first Australian Station to contact a DX station (over 2,000 miles) on the 80 Mc. band?
2. What is a "Discriminator"?
3. Reg Fox is the operator of a rare DX Station. What is his call sign?
4. Who is the Federal President of the W.I.A.?
5. What does "Nagasaki's Constant" concern?
6. What is "Schott's Note"?
7. In the late 30's an Australian, now famous in Amateur Radio, was killed while experimenting with Television. Who was he?
8. Approximately how many materials are used in the manufacture of radio valves?
9. What are the Amateur prefixes for the following countries: Turkey and Ceylon Islands, Swan Island, Christmas Island, Yutsum City, Bulgaria?
10. What is an "Edifice" Array?

(Answers on Page 13)

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# TASMANIA WINS AGAIN

## RESULTS OF 1950 REMEMBRANCE DAY CONTEST

Despite the fact that there was some preliminary misunderstanding with respect to Rule 1—the duration—of the 1950 Remembrance Day Contest, which was incorrectly published in the August issue of "Amateur Radio," the Contest got away to a flying start with greater activity than in any previous year. Although VK7 have won again, closely contested by VK6, the statistics published below indicate clearly that the winning State was far from being the most active, participant and won by virtue of the fact that their low State Amateur licensee figure gave them a high multiplier number for the percentage of logs sent in.

Comparison of the logs received with the licensed Amateurs in VK6 and VK7 shows an approximate percentage of one third. Taking, for example, the VK2 Division with the highest State Amateur licensee figure—992 at the time of the Contest—and assuming that the logs received had been one third of this figure, VK2 still could not have won the Contest!

It appears to be impossible for the larger States to win, indicating that something must be done to the scoring system to give a more even chance to all States. Your suggestions will be gladly received.

Generally speaking the standard of the logs sent in was good though much extra work had to be done by the Contest Committee where members had not summarised their logs fully.

The percentage of logs sent in was disappointing, necessitating giving entrants the benefit of the doubt where there was no log to check against. Why don't you send your log in and help your State score even if you have not had many contacts?

Due to conditions there was very little activity on the 28 Mc. band, most of the operating being confined to the 7 and 14 Mc. bands with quite a deal of activity on the 3.5 Mc. band. Had the 28 Mc. band been open the results could have been quite different.

The time factor involved in having these results ready in time for the January issue of the magazine which, because of the Christmas and New Year holidays, goes to press much earlier than usual, coupled with the fact of a shortage of space in the magazine, has made it impossible to publish more than the top twenty entrants in the Contest. However, Federal Executive would like to thank all those who assisted in making this Contest a success for 1950.

Our hearty congratulations go to Tasmania who kept the Trophy for the second year running.

### INDIVIDUAL SCORES

Individual scores of the top twenty in each State are listed below. The figures represent in the following order: Call, Type of Station, (Q—phone shd. c.w., P—phone only, and C—c.w. only), Bands Used, Contacts, and Points scored.

### NEW SOUTH WALES

VK2PA	Q	4	237	621	VK2DO	Q	3	151	486
VK2EO	Q	4	192	482	VK2OA	Q	2	218	592
VK2EL	Q	4	169	483	VK2OB	Q	2	119	299
VK2BS	P	3	152	420	VK2ATP	Q	3	105	278
VK2SH	Q	3	153	421	VK2OT	P	3	104	270
VK2ADT	Q	4	140	367	VK2P	Q	3	85	219
VK2WH	Q	3	153	386	VK2AMN	Q	2	94	229
VK2ASW	P	2	128	326	VK2PN	Q	3	84	224
VK2JL	Q	3	123	294	VK2P	Q	3	77	215
VK2BO	Q	3	110	214	VK2PO	P	2	60	207

### VICTORIA

VK3AK	Q	3	293	480	VK3ARL	P	3	117	281
VK3BD	Q	3	177	463	VK3AE	Q	2	85	267
VK3ADF	Q	3	146	378	VK3PH	C	2	92	265
VK3IG	P	3	131	367	VK3RH	Q	2	99	245
VK3BF	Q	3	145	354	VK3JZ	Q	2	100	242
VK3XB	Q	2	130	327	VK3Z	Q	2	84	223
VK3ATN	Q	3	121	304	VK3AEP	Q	3	76	194
VK3JL	Q	3	96	280	VK3MG	P	1	88	171
VK3DG	Q	3	116	298	VK3HG	Q	2	50	141
VK3ZU	C	3	118	297	VK3YS	C	3	51	128

\* Non Member of W.L.A.

### QUEENSLAND

VK4UL	C	3	159	428	VK4N	Q	1	110	283
VK4TU	Q	3	177	419	VK4RP	Q	1	100	237
VK4RW	P	3	148	366	VK4CN	P	1	100	180
VK4FX	Q	1	142	368	VK4PW	Q	2	11	180
VK4FH	P	3	157	338	VK4JZ	Q	2	99	165
VK4HQ	Q	3	158	347	VK4DI	P	2	46	106
VK4G	Q	3	130	347	VK4GH	Q	2	46	99
VK4SI	Q	3	137	340	VK4P	P	1	32	92
VK4RW	P	1	100	251	VK4JF	C	3	20	62
VK4BG	Q	2	103	238	VK4LB	P	3	21	43

\* Non Member of W.L.A.

### SOUTH AUSTRALIA

VK5RN	P	2	164	417	VK5RW	Q	2	100	234
VK5OL	C	3	132	280	VK5D	Q	2	99	224
VK5AT	Q	3	135	262	VK5MD	Q	3	96	224
VK5AN	C	3	138	316	VK5LO	Q	2	84	218
VK5EN	P	3	120	316	VK5MK	P	3	85	210
VK5PM	Q	3	127	327	VK5HI	Q	2	67	106
VK5PF	P	3	123	313	VK5LL	Q	1	61	101
VK5AJ	P	2	126	296	VK5BP	Q	3	27	169
VK5CO	Q	2	100	226	VK5GL	P	2	62	103
VK5JB	C	2	103	228	VK5HS	P	2	61	101

\* Non Member of W.L.A.

### WESTERN AUSTRALIA

VK6RL	Q	3	228	528	VK6NA	C	2	24	58
VK6RW	Q	2	211	492	VK6WZ	C	1	16	32
VK6DA	Q	3	201	484	VK6JK	P	1	9	21
VK6PL	Q	2	191	467	VK6MG	P	2	11	24
VK6RL	Q	2	187	449	VK6M	P	1	9	24
VK6MB	Q	3	117	357	VK6LM	P	1	8	21
VK6AN	Q	3	117	352	VK6WT	C	1	7	27
VK6LJ	C	3	41	104	VK6RW	P	1	7	27
VK6DW	Q	2	37	84	VK6W	C	1	19	39
VK6H	P	2	23	60	VK6MO	P	1	7	19

### TASMANIA

VK7RK	Q	3	491	583	VK7HI	P	3	16	111
VK7AB	Q	3	261	423	VK7DS	C	2	23	128
VK7PF	Q	2	163	404	VK7LE	P	1	26	104
VK7OH	Q	3	134	323	VK7LZ	C	3	34	93
VK7VL	Q	2	113	328	VK7Q	P	2	26	89
VK7LJ	Q	3	111	325	VK7KA	Q	2	31	73
VK7RL	P	3	108	276	VK7HQ	P	3	23	66
VK7BY	C	3	74	159	VK7CZ	P	2	32	61
VK7BH	Q	2	70	120	VK7CT	P	2	33	61
VK7FL	Q	3	77	148	VK7AB	P	2	33	60

### NEW GUINEA, Etc.

Logs were received from three VKs which reject them becoming eligible to contest the Trophy									
VK9BR	C	1	4	115					
VK9BW	C	2	47	108					
VK9TN	C	1	15	24					

### LISTENER'S LOG

HR-19 A. E. Trebilcock	Q	2	116	509					
A Check Log was received from VK6LO—Thanks OM!									

	VK2	VK3	VK4	VK5	VK6	VK7	VK9
Eligible logs received ..	79	48	25	67	60	37	3
Licensed Amateurs at time of Contest	992	908	306	308	185	85	20
Multiplier	0.079	0.051	0.081	0.217	0.324	0.389	
Average of first six logs	484.1	389.0	380.8	383.6	467.6	400.8	
Final State score, 1950	38.24	28.25	30.84	78.90	151.5	155.9	
Final State score, 1949	10.16	10.98	15.3	26.77	49.47	74.59	
Place for 1950	4	5	4	3	2	1	
Place for 1949	5	4	4	3	2	1	

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# DX Countries of the World

The list of countries as hereunder, and as amended from time to time in Federal Notes, is the Official List to be used in connection with the issue of the Australian DX C.C. Award, and is also the official list used by the A.R.R.L. for their Award.

The list below shows first the Country, the Zone number in parenthesis (as used by the "CQ" W.A.Z. Award) and the Amateur Prefix

Aden and Socotra Island (21)	VS9	Cuba (8)	CM, CO	Kenya (37)	VQ4
Afghanistan (21)	YA	Cyprus (20)	(MD7), ZC4	Kerguelon Islands (39)	FB8
Alaska (1)	KL7	Czechoslovakia (15)	OK	Korea (25)	HL
Albania (15)	ZA			Kuwait (21)	(VT1)
Aldabra Islands (39)		Denmark (14)	OZ	Laccadive Islands (22)	VU4
Algeria (33)	FA	Dodecanese Islands (Rhodes) (20)	SV5	Lebanon (20)	AR8
Andaman & Nicobar Is. (26)	VU5	Dominican Republic (8)	HI	Leeward Islands (8)	VP2
Andorra (14)	PK			Liberia (35)	EL
Anglo-Egyptian Sudan (34)	ST	Easter Island (12)		Libya (34)	(MC1, MD1, MD2, MT2)
Angola (38)	CR6	Ecuador (10)	HC	Liechtenstein (15)	HE1
Antarctica (13)	KC4	Egypt (34)	(MD5), SU	Luxembourg (14)	LX
Argentina (15)	LU	Eire (Irish Free State)	EI		
Ascension Island (38)	ZD8	England (14)	G	Macau (24)	CR9
Australia (Inc. Tas.) (29, 30)	VK	Eritrea (27)	(MD3), M16	Madagascar (39)	FB
Austria (15)	(MB9), OE	Ethiopia (37)	ET	Madeira Islands (33)	CT3
Azores Islands (14)	CT2			Malaya (28)	VS1, 2
		Faeroes, The (14)	OY	Maldives Islands (22)	VS9
Bahama Islands (8)	VP7	Falkland Islands (13)	VP6	Malta (15)	ZB1
Bahrain Island (21)	MP4	Fanning Island (Washington Is.)	VR3	Manchuria (24)	C9
Baker, Howland & Am. Phoenix Islands (31)	KB8	Fiji Islands (32)	VR2	Marianas Is. (Guam) (27)	KG6
Baleares Islands (14)	EA6	Finland (15)	OH	Marion Is. (and Prince Edward Is.) (39)	ZS2
Barbados (8)	VP8	Formosa (24)	CS	Marshall Islands (31)	KX6
Barro Colorado (38)	ZS8	France (14)	FN	Martinique (38)	FM
Bathurst Island (38)	ZS9	French Equatorial Africa (36)	FQ	Mauritius (20)	VQ8
Belgian Congo (36)	OQ5	French India (22)	FI	Mexico (8)	XE
Belgium (14)	ON	French Indo-China (28)	FO	Midway Island (31)	KM6
Bermuda Islands (5)	VP9	French Oceania (Tahiti)	FF	Miquelon & St. Pierre Is. (5)	PF
Bhutan (22)		French West Africa (35)	FF	Monaco (14)	(CZ)
Bolivia (10)	CP	Fridtjof Nansen Land (Franz Josef Land) (40)	UA1	Mongolian Rep. (Outer) (28)	(JT)
Bonin and Volcano Islands (Iwo Jima) (27)	KG6			Morocco, French (33)	CN
Borneo, British North (28)	VS4	Galapagos Islands (10)		Morocco, Spanish (33)	EA9
Borneo, Netherlands (28)	PK5	Gambia (35)	ZD3	Mozambique (37)	CR7
Brazil (11)	PY	Germany (14, 15)	DL		
Brunei (28)	VS5	Gibraltar (14)	ZB2	Nepal (22)	VU7
Bulgaria (20)	LZ	Gilbert, Ellice & Ocean Is. (31)	VR1	Netherlands (14)	PA
Burma (28)	XZ	Goa (Portuguese India) (22)	CR8	Netherlands West Indies (9)	PJ
		Gold Coast (and British Togoland) (35)	ZD4	New Caledonia (32)	FK
		Greece (20)	SV	New Guinea, Netherlands (28)	PK7
Cameroons, French (36)	FE	Greenland (40)	OX	New Guinea, Territory of (28)	VK9
Canada (2, 3, 4, 5)	VE, VO	Guadeloupe (8)	FG	New Hebrides (32)	FU, YJ
Canal Zone (7)	KZ5	Guantanamo Bay (8)	KG4	New Zealand (32)	ZL
Canary Islands (33)	EA8	Guatemala (7)	TG	Nicaragua (7)	YN
Cape Verde Islands (35)	CR4	Guiana, British (9)	VP3	Nigeria (35, 36)	ZD2
Caroline Islands (37)	KC6	Guiana, French, and Inini (9)	FY	Niue (32)	ZK2
Cayman Islands (8)	VP6	Guiana, Netherlands (Surinam) (9)	PZ	Norfolk Island (32)	VK9
Celebes & Molucca Is. (28)	FK6	Guinea, Portuguese (35)	CR5	Norway (14)	LA
Ceylon (22)	VS7	Guinea, Spanish (35)		Nyasaland (37)	ZD6
Chagos Islands (39)	VQ8			Oman, Trucial (21)	MP4
Channel Islands (14)	GC	Haiti (8)	HH		
Chile (12)	CE	Hawaiian Islands (31)	KH6	Pakistan (22)	AF
China (23, 24)	(B), C	Heard Island (39)	VK1	Paisu (Pelew) Islands (27)	CC8
Christmas Island (28)	ZC3	Honduras (7)	HR	Palestine, Arab (20)	ZC8
Clipperton Island (7)	FO8	Honduras, British (7)	VP1	Panama (7)	HP
Cocos Island (7)	TI	Hong Kong (24)	VS6	Papua Territory (28)	VK9
Cocos Islands (28)	ZC2	Hungary (15)	HA	Paraguay (11)	ZP
Colombia (8)	HK	Iceland (40)	TF	Peru (10)	OA
Comoro Islands (39)	FB8	India (33)		Philippine Islands (27)	DU
Cook Islands (32)	ZK1	India (22)	VU	Phoenix Is., British (31)	
Corsica (15)	FC	Iran (21)	EP, EQ	Pitcairn Island (32)	VR6
Costa Rica (5)	TI	Iraq (21)	(MD6), YI	Poland (15)	SP
Crete (20)	SV	Ireland, Northern (14)	GI	Portugal (14)	CT1
		Isle of Man (14)	GD	Principe & Sao Thome Is. (36)	
		Israel (20)	4X4	Puerto Rico (8)	KP4
		Italy (15)	I		
		Jamaica (8)	VP5	Reunion Island (39)	FR
		Jan Mayen Island (40)		Rhodesia, Northern (36)	VQ2
		Japan (25)	JA	Rhodesia, Southern (36)	ZE
		Jarvis & Palmyra Is. (31)	KP6	Rio de Oro (33)	(EA8)
		Java (28)	PK	Roumania (20)	YO
		Johnston Island (31)	KJ6	Ryukyu Is. (Okinawa) (25)	KR6



St. Helena (36)	ZD7
Salvador (7)	YS
Samoa, American (32)	K5B
Samoa, Western (32)	ZM
San Marino (15)	(M1)
Sarawak (28)	VS5
Sardinia (15)	IS
Saudi Arabia (Hedjaz & Nejd) (21)	HZ
Scotland (14)	GM
Seychelles (39)	VQ9
Siam (28)	HS
Sierre Leone (35)	ZD1
Sikkim (22)	AC3
Solomon Islands (28)	VR4
Somaliand, British (37)	(MD4), VQ6
Somaliand, French (37)	(MD4), FL
Somaliand, Italian (37)	(MS4, MD4)
South Georgia (13)	VP8
South Orkney Islands (13)	VP8
South Sandwich Islands (13)	VP8
South Shetland Islands (13)	VP8
Southwest Africa (38)	ZS3
Soviet Union:	
European R.S.F.S.R. (16)	UA1, 3, 4, 6
Asiatic R.S.F.S.R. (17, 18, 19)	UA9, 0
Ukraine (16)	UB5
Belorussian S.S.R. (16)	UC2
Azerbaijan (21)	UD8
Georgia (21)	UF6
Armenia (21)	UG8
Turkmenia (17)	UH8
Uzbek (17)	UI8
Tadzhik (17)	UJ8
Kazakh (17)	UL7
Kirghiz (17)	UM8
Karelo-Finnish Republic (16)	UN5
Moldavia (16)	UO1
Lithuania (15)	UP2
Latvia (15)	UQ2
Estonia (15)	UR2
Spain (14)	EA
Sumatra (28)	FK4
Svalbard (Spitzbergen) (40)	(LA)
Swan Island (8)	KS4
Swaziland (38)	ZS7
Sweden (14)	SM
Switzerland (14)	HB
Syria (20)	YK
Taiganyika Territory (37)	YK
Tangier Zone (33)	EK
Tannu Tuva (23)	(TT)
Tibet (23)	AC4
Timor, Portuguese (28)	CR10
Togololand, French (35)	FD
Tokelau (Union) Islands (31)	
Tonga (Friendly) Islands (32)	VR5
Transjordan (20)	ZC1
Trieste (15)	AG2, MF2
Trinidad and Tobago (8)	VF4
Tunisia (35)	VS4
Tunisia (35)	(VS4), ZD8
Turkey (28)	TA
Turks & Caicos Islands (8)	VP6
Uganda (37)	VQ5
Union of South Africa (38)	ZS
United States of America (8, 4, 5)	K, W
Uruguay (13)	CX
Vatican City State (15)	HV
Venezuela (9)	YV
Virgin Islands (8)	KV4
Wake Island (31)	KW6
Wales (14)	GW
Windward Islands (8, 9)	VP2
Wrangel Island (19)	
Yemen (21)	
Yugoslavia (15)	YU
Zanzibar (37)	VQ1

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When installed, this simple insulator, the construction of which is a matter of seconds, is amazingly strong and rigid.

It will be found abundantly substantial to support inductances and similar equipment in v.h.f. transmitters and it has an attractively low self capacitance at the "hot" point.

It is better to use a hand drill running slowly than any powered drill in making the holes as less heat is generated in the process and a cleaner job results.

The usual precautions must be observed in soldering to the lug to avoid overheating and distortion, but the heat conveyed into the body of the insulator by the screw will frequently tend to seal the screw into its anchorage and make an even firmer job.

—Anonymous, Canberra.

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Bulgin 8271 D.P.D.T. with extended deflag.	6/9 each
Bulgin 3265 two-way Switches (Bridge for S.P.D.T.)	6/1 each
Bulgin T28 P29 two-pin Round Cable Connectors (male and female sections)	6/9 each
Bulgin TPI Test Prods with Plated Tips	7/6 each
Bulgin TT Insulated Lining Up Tool	1/6 each
Bulgin D400 Series Panel Lamps—Red, Green, Blue, Amber	3/11 each
Bulgin D170 Series Panel Lamps—Red, Green, Blue, Amber	3/9 each
Bulgin D300 Series Panel Lamps—Red, Green, Blue, Amber (front loading)	5/3 each
Bulgin D600 Signal Lamp Lens Bushes—Red, Green, Blue, Amber	6/6 each
Bulgin 8206 two by nine-way Wafer Switches, Contact Rating 1 Amp.	8/6 each
Bulgin E13 W-plated Sunk Switchboard ON OFF Flats for Toggle Switches	1 each
Bulgin P161 two-pin Round Cord Connectors	7/5 each
Bulgin IVC-23 47,000 ohm 3 watt WW potentiometers (impulsed for 500 volts (below from 10 ohms upwards available shortly)	7/9 each
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Painton No. 500469 six-way Jones type Male Chassis Plugs	7/6 each
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Belling & Loe L1055 General Purpose Fuses, similar in construction to standard car Fuses. Available in 50, 100, 150, 250, 600 Ma.; 1, 2, 5, 10 and 15 Amp. 11d. each	
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## FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

In spite of its somewhat later than usual awakening, at the time of writing the 50 Mc. band appears to be offering plenty of opportunities for DX work. By far the most consistent stations have been ZLs, although signals in general have not been as good as could be desired. All ZL districts have been heard and worked by VK2 and VK3 stations.

50 Mo. ACTIVITY  
NEW SOUTH WALES

All districts of New Zealand have been worked from Sydney and the Newcastle boys have been getting through to EL also. The usual time seems to be about when the evening meal is ready here, although the countries last up to 22.00 hours.

An excellent opening to VEY occurred on 27/11/18 when VRs 1LZ, 1BQ, 7XL, 7AB and 7AZ came through at 80 to the end of a dipole—signals also went in the other direction. VR's and VR's also have been worked from Sydney. VEK01 in Cobarra has been on to the 8Ls. VRs 2VW, 8ADQ, 3AH, 3ANF, EUD, and 2WJ have been raising most of the DX from Sydney and EADT has been connecting a share of it. 2VR now has a beam and has come up out of the traffic noise with a nice signal.

The VK2W1 Sunday night broadcast to whf members is now quite a complicated affair. SVW has his beam pointed north on 80 Mc. and initiates the signal. He is relayed by 2DF on 144 Mc. and then this signal is relayed by SANF with a beam pointed to the west for Amateurs in the Blue Mount area.

BKX has re-appeared on the band on c.w. as the modulator is out of action—40 watts to a dipole managed to raise VE7. SLO made a CQ call and hasn't been heard of since.

## VICTORIA

November opened up with all the regular VK3 operators keyed up ready for DX, but the first Saturday in the month giving no signs of opening. The last three seasons showed us all good DX openings on this day, but not so this year, possibly due to the sunspot cycle starting to get toward its minimum.

The first Alpha of DX was on Sunday evening, 18th, around 9 to 9.30 p.m. when VK3BD had a scratchy contact with VK4XN. VK4XN was also heard by VK3RR at MoCtas and later contacts showed that these stations were also heard by VK4KK. VK3AQ called CQ as usual on Monday, 19th, at 12.00 hours and was answered by 3IM, 3LW and 3LH and a number of others. I even received our old friend 4BT as heard calling CQ. This was limited to hooking up with 3RR on phone for a couple of extra earth wires.

No more B&B was heard until Friday evening, 14th, when B&B had a quick contact with a ZL, then the following evening (15th) for approx. 20 hours the ZLs came through up to R&B and the VKs had the best opening so far this season. B&B got over the hump of dirt—Arthur's Seat (1031 ft.)—for the first time to ZL from his McCrae location during this opening. VKs were heard and also Varing for a short period. B&B was still in a good B&B condition. B&B was having a very beautiful long rag chew with Q&B and said that he was going to listen for the beacons—whome you, Charles, when the band was open.

The band was open between VK3 and ZL again on 27th 28th and 29th. VK3ZL at Ballarat had a contact with VK4WQ on the 29th. VK4s and VK4s were also contacted by VK3s on 27th, 28th and 29th.

The next day, Field Day is scheduled for Sunday, 14th January, where the boys will be out on patrol. The boys are being trained by the ARB and SCD who are going to lead the Lookout near Ha. Gap in the Orinaba, 2544 ft. high. The boys will be taking a wait line on 144 and 80 and will be there with the local boys SARL, SAKR and SAKR. The boys are taking a wait line on 144 and 80. We powered down the 144 and 80 and 80 more. It is hoped that contacts will be made with VKS, and the boys will be able to get a good signal. The party will also be operating on 144 and 80 more for being up skulls, etc. If any VKS could operate on 144 and 80, the boys will be able to get a good signal through and console should be made with the VKS at Mt. Gambier district. Also, if any VKS could operate on 144 and 80, the boys will be able to get a good signal. It is possible that contacts could be made on 144 M. However, the boys will be on 80 and 144 M. The boys will be on 144 M. on Sunday morning to see who is where.

VEKs and ZLs. November 18 was an exceptionally good opening with the ZLs in early in the evening then VK7, VK3, VK2 and VK4, no VK6 or Northern Territory were heard although a ZL was heard calling a VKs.

Most VKIs who were on worked several ZIs and then the other States. One prominent VKI was heard complaining about QRM on 14 Mc. usual talk from a V.K.F. man. No reports have been received from any country member on 50 Mc. activity as yet this season, although stations were heard in QSO with 500 kc. noise. Hughie has been to town and has a line to his own signal from his brother's place. 500 kc. has been very much recommended for their efforts over the past months to keep steady and it is remarkable the number of times and reliability of their contacts from Denmark to Adelaide on 50 Mc.

144 Me. enthusiasts are asked to keep a sharp lookout for break throngs on this frequency, especially in the early mornings. Quite frequently during the winter months, an aircraft frequents around the 120 Mc. mark, but it is not clear whether these are that Mount Gambier and Mildura have been worked from Adelaide, so there is no reason that this frequency should not be used. The frequency first could not be accomplished between VKS and VKF if pre-warning could be given to enable those interested to get to an elevated position before the aircraft appears. The frequency is not mentioned on the weather charts for isobar formations showing equal barometric pressure. Any pre-warning that can be given will be done so from this State to assist.

5BC heard Q-0 SHD has an add-on to family's daughter-in-law on 5. M. c.w. has been dabbling a bit with harmonic oscillators. 5GL has been humming again, wider spaced and better performance; the circuit is now in 5K3. 5GR also been to the VK3 on 'maurine'. 5ZL reports that the 50000 at the moment. 5ZL in amongst the 5Zfs and worked five in one night. 5RT heard on one night in Q-0 with 5GP and 5QR. 5VL returned to the band and heard Q-0 4LY SHD building a xtal oscillator. NH heard the activities of the boys in the 50000 and it was most interesting. The 50000 is a palpat snake in keeping them on 5C MC. Happer New Year, gung, and good DXing on the y.h.f. - 5K3

## WESTERN AUSTRALIA

Very little to report in the way of fresh activity this month. SBO, GGB, SHR, GGS, GDW and GAS have been the most regular users of the band of late. GBE not as active as usual. SBO is getting all ready to go portable down to Danbury over his birthday. SHR's beam is still fixed towards the East, but hopes to have it rotatable soon.

Everyone is waiting for the expected break through to the East, but at the time writing (November 28) there has been no sign of any DX, unless 40W, down in Albany, has managed to get through. Either he or 40W in Bruce Rock will probably be the first ones to work the DX. Last year the first break through occurred in the first week of December and the band was only open on a few days that we know of, the last day being January 7. Here's hoping for more re-openings this year.

## 144 Mc. DOINGS OF THE MONTH

## NEW SOUTH WALES

Sixty odd stations took part in the three week-end contest which consisted of two sections—number of contacts and distance worked. Many new stations made their bow on the band and even 2QZ came on with a mod. car borrowed from 2PU.

The contest was a happy one and no one seems displeased with it except the Contest Committee who would like a lot more logs—EQZ wants to see them too fellows, to write up your 144 Mc. gear. The results have not yet been released but a chap in Lane Cove seems to have made a lot of contacts.

The Field Day at Woy Woy saw a large and varied assortment of 144 Mc. gear in cars and on motor cycles too! The hidden 144 Mc. Tx (2XX) was soon located by 2AAN with half a dozen others along soon after. 2ANP, who stayed at home, worked portables VKs, 2AFT, 2IY, 2BG, 2AAN, 2AYP and 2XX as they were driving back to Sydney.

The chief feature of the W.H.F. section meeting for November was a debate on the desirability of making use of the 144 Mc. band. EFM, SAMP, and AABH extolled the supposed virtues of the band while phone, and SQZ, SAMP and Bernice Taylor (an associate member) merely had to point out the obvious advantages of xtal control and modulated amplifiers to secure a moral victory, despite the fact that the desire by the sedentary, ENQ, and some of the members for a more mobile station, although a tiny 5 x 6 1/2 x 36 inch 41w x 4" x 8" 2 1/2" with a 6 Mc. xtal to show that the more elaborate gear can be compact. There was much good-natured bickering and everyone agreed that mod. osc. still has a place on the band--for the tyros and the

perceptions are already being made by SWI and SAH to raise Zia on this band—which reminds me that there was an opening on Sunday night for a 100 Mc DX opening. SWI had his tape of the 100 Mc DX opening and the "northerners' signals" during the SWI broadcast. Laughlin will soon be collecting v.h.f. voices so keep a supply of throat lozenges handy. A bandy supply of throat lozenges is not a bad idea. SWI is also planning to use a 1.611 MHz SPU. The rig has a vibrator power supply with 4 Mc. xtal and p.p.s. 71926 in the final. SWI hopes to have lots of dope on 144 Mc. gear for next month. SWI is also planning to have a contest taken for winning the v.h.f. gang the compliments of the season. Good DX and make 100 per cent.

## VICTORIA

The v.h.f. group meeting night is the third Wednesday each month. All interested are welcome. With an attendance of 35, the November meeting heard the final results of the October Field Day Contest; reports of activities on the November Field Day; a lecture and demonstration of v.h.f. gear by Mr. O. Jackson, and a discussion regarding the lack of stations using the high frequency end of the v.h.f. bands with particular emphasis on the 30 Mc. and 144 Mc. bands.

SACH, SAJT, SFO, SJO, SABA, SAUK and SQQ all reported their activities on the November Field Day. Although fewer stations were active on this Field Day as compared with the previous one, it was nevertheless acclaimed a successful day by all who participated. Once again we had perfect cooperation from the weather and once again signals from VKTRB, who was at the same portable location as on 18th October, were well received and many contacts made. Unfortunately the Geological stations and SAJG and SAQD were tied up with the B.W. Zone Convention and were unable to participate.

Mr C Jackson, of the University, continued his lecture of the previous meeting and, in addition to the oscillators shown then, he demonstrated a wave guide, showing by means of a crystal diode and micro-ammeter, how it was possible to locate the positions of nodes and anti-nodes and so measure the frequency in much the same way as is done with a crystal wire at v.h.f. Mr Jackson also explained with the aid of diagrams on the board how the electric and magnetic fields are combined in the wave guide—although a very interesting and informative lecture for which a vote of thanks was suitably accorded.

[illegible]

## ANSWERS. AMATEUR RADIO QUIZ

(QUESTIONS ON PAGE 1)

- 1 VK5K1
- 2 The type of detector used for f.m. signals.
- 3 AC0YN
- 4 R.I. Groom, VK3WG
- 5 The calculation of the inductance of a coil
- 6 It depends on the ratio of coil length to diameter
- 7 Noise or hiss produced by random bombardment of electrons flowing from cathode to plate in a valve
- 8 Ross Hu3
- 9 Just over 120 (R.C.A. Tube Manual)
- 10 VP5, X84, ZC3, HV, LZ
- 11 At 400 arc where maximum radiation is in the forward plane of the elements. The elements being fed out of phase

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VR5LO	1	
VR4RY	2	1
VR6DW	3	
VR4HR	4	1
VR4PG	5	1
VR4RR	6	1
VR3HT	7	

## SOUTH AUSTRALIA

Well the long awaited DX break seems to have come by the number of break throughs during the past few weeks on 50 Mc. The band appears to have opened up a little earlier this year and those who have missed out have no excuse as the warning has been mentioned for the last month or two. One notable point is the early appearance of the

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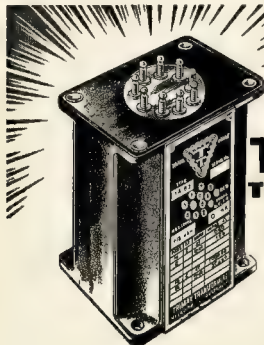
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# FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: W. R. GROWER (VK3WG); Federal Secretary: G. M. HULL (VK3ZS), Box 2611W, G.P.O., Melbourne.

## NEW SOUTH WALES

President.—J. Corbin, VK3YC.  
Secretary.—David H. Duff (VK3EO), Box 1154  
G.P.O., Sydney

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney

Divisions.—Sub-Editor.—A. C. Pearce, VK3AHB, 181A Buxton Rd., Leichhardt, N.S.W.

Zone Correspondents.—Nth. Coast & Tablelands: J. M. Bellach, VK3ED, Bangor, Newcastle E. W. Wale, VK3EA, Vale E. Burdington Gardens, Newcastle; Coalfields and Lakes, H. Hawkes, VK3YL, 31 Comfort Ave., Cessnock; Western: W. H. Bell, VK3WD, Cumbrija, Verdes, South Coast and South-east: R. H. Weyner, VK3DO, 62 Pettit St., Yass, Western Suburban: A. C. Pearce, VK3AHB, 181A Buxton Rd., Leichhardt, Eastern Suburban: D. B. Knock, VK3NO, 45 Yankoo Avenue, Waverley; North Sydney: L. D. Cuffe, VK3AM, 174 Melbury Rd., Mosman; St. George: J. C. Ankermar, VK3ALD, 89 Park Rd., Carlton; South Sydney: V. E. Wilson, VK3VW, Cr. Wilsons St. and Marine Pde., Maroubra.

## VICTORIA

President.—O. R. Bonner, VK3OS.  
Secretary.—C. Dyer (VK3DY), 19 Collington Ave., Brighton (CA 9326).

Administrative Secretary.—Mrs. S. May, Law Court Chambers, 191 Queen St., Melbourne, C.I.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—Western: O. C. Waring, VK3TV, 13 Essex Rd., Stawell; South Western: S. McKee, VK3AR, K. Kew, Westmoreland; North Eastern: T. S. Tennant, 18 Harold St., Shepparton; Far North Western: M. Felle, 101 Melton Rd., Mildura; Eastern: R. S. Telford, VK3ER, Timbathra; North Western: C. Oates, VK3AOB, Cumming Ave., Birchbich.

## FEDERAL

### SPECIAL AMATEUR PROGRAMMES

The British National Broadcasting Service have announced the transmission from their Leopoldville station (Belgian Congo) call letters QTC, of regular twenty minute programmes for Radio Amateurs in collaboration with Amateur Clubs. The station, raised at 30 km, transmits on 2767 Kc. at the following times:

1210 G.M.T.—to Dutch  
1610 G.M.T.—to English  
2010 G.M.T.—to French

Each programme is composed of news about Amateur transmitting and reception, interviews with Belgian and foreign Radio Amateurs, DX news, a letter box and a review of Amateur radio periodicals. Any interested members are asked to forward a signal report, together with their QSL card to: Belgian Overseas Service, QTC, Programme DX, 18 Place E. Flagey, Brussels (Belgum).

### ADDITIONS, ALTERATIONS, AND DELETIONS TO AMATEUR CALL SIGNS—NOVEMBER, 1960

#### Additions—

VK3AQ—A. J. E. Robertson, 5 Lachlan Place, 108 Brook St., Geelong (changed from VK3AQZ)  
VQZ—Dr. R. H. Black, 26 Collyer St., Sydney (changed from VK3AQZ)  
2ABD—R. H. Carr, 19 French Ave., Backstons 2ABP—J. MacPhie, 33 Scholier St., Mayfield, Newcastle.  
2AQR—R. W. Rose, 26 Weir St., Warramunga 2AFT—T. W. Thatcher, 51 Stannmore Rd., Stanmore.  
VK3AY—R. B. C. Davies, 26 Sutherland Rd., Collingwood.  
3ZZ—W. L. Stevens, 18 Winnimala Rd., Balwyn.  
3ABZ—J. Duff, 700 Main St., Buxton.  
3ABJ—J. H. Catford, 14 Francis St., Wertheim.  
3ABD—W. T. Bond, 230 Ascot Vale Rd., Ascot Vale.  
VK3EM—J. H. Mack Willis Island.  
4BA—J. Armstrong, Hawthorne St., Essunga, Brisbane.  
VKAH—E. L. Williamson, 41 Salisbury Terrace, Collingwood.  
4TF—M. P. Fuller, Night Club, Darwin.  
5WPA—A. H. Watts, 15 Robert St., North Unley.  
VK3G—J. Spence, Luthera Mission Island, N.G. VK3IM—J. Frost, Manourie Island.

## WI BROADCASTS

All Amateurs are urged to keep their frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2W—Sundays, 1100 hours EST, 7196 Kc. and 1600 hours EST 50 and 144 Mc. No frequency checks, available from VK2W. Intra-State working frequency, 7175 Kc.

VK3W—Sundays, 1130 hours EST, simultaneously on 2750 Kc., 7196 Kc. and 1600 Kc. 50 and 144 Mc. bands. Intra-State working frequency, 7185 Kc. Individual frequency checks of Amateur Stations given when VK3W is on the air.

VK4W—Sundays, 0900 hours E.S.T. simultaneously on 2750 Kc., 7196 Kc., 1600 Kc., 50 Mc. and 144.158 Mc. Frequency checks are given two nights weekly, and times are announced during Sunday broadcasts. 1764 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4W.

VK5W—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5W by arrangement only on the 7 and 14 Mc. bands.

VK6W—Sundays, 0900 hours WAST, on 7196 Kc. No frequency checks available.

VK7W—Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

## SILENT KEY

It is with deep regret that we record the passing of:—

VK4ER—Eric Rielly, in November, 1950.

VK2ZN—Bill Cottrell, 1st December, 1950.

### Alterations—

VK3AL—20 Curlew St., Blakehurst.  
2BO—210 Auburn Street, Goulburn.  
2BZ—Sandgate Road, Wailend.  
23C—81 Koolha Avenue, Kallbar.  
2DS—Barr Bank Street, Dapto.  
2QI—84 "Birkura", 25 Canale St., Randwick.  
2143—"Acropolis Flats", Parkway Avenue, Newcastle.  
2Y2—226 Franklin Street, Matraville.  
2ZB—88 Juno Parade Lakemba.  
2ZB—107 Archer Street, Chiswood.  
2AQZ—Seven Acres, Princess Highway, Heathcote, Sydney.  
2AQP—158 Headland Road, Dee Why.  
2V3—30 St. 18, 23rd Street, Warragamba Dam.  
2AWY—65 Dalton Street, Orange.  
VK3IN—35 Field Avenue, Edithvale.  
3FQ—29 Inkeram Street, Maryborough.

### W.I.A. ACTIVITIES CALENDAR

Jan. 19: Convention Motions due in to Federal Executive.  
Jan. 27-28: W.I.A. Nat. Field Day Contest.  
Jan. 27-28: South African International DX Contest, 1957.  
Jan. 31: Membership Roll of each Division due with F.E.  
Feb. 3-4: B.E.R.U. Contest—Phone.  
Feb. 24-25: B.E.R.U. Contest—C.W.  
Feb. 28: Convention Per-Contests due with F.E.; end of Fiscal Year of Divisions.  
March 3-4: B.E.R.U. Contest—C.W.

## QUEENSLAND

President.—J. F. Pickles, VK4FP.  
Secretary.—W. L. Stevens, VK4TB, Box 688J, G.P.O., Brisbane

Meeting Night.—Third Friday in each month at the I.R.E. Rooms, Wickham St., Valley Divisional Sub-Editor.—Oliver J. Cooke, VK4CC, Karan Street, Chermside, Brisbane.

## SOUTH AUSTRALIA

President.—E. A. Barber, VK3MD.  
Secretary.—J. L. Bowen, VK4XU, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.  
483 Kaplanade, Henley Beach.

## WESTERN AUSTRALIA

President.—R. W. S. Hugo, VK3EW.  
Secretary.—W. B. Oxeon, VK3AG, 7 Howard St., Perth.

Meeting Place.—Fidelity House, Cnr. St. George's Ter. and King St., Perth.  
Meeting Night.—Third Tuesday of each month.  
Divisional Sub-Editor.—Alec A. Smith, VK3AR, 75 Watson St., Carlisle, Western Australia.

## TASMANIA

President.—J. Brown, VK3BJ.  
Secretary.—R. E. O'May, VK3OM, Box 871B, G.P.O., Hobart.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—S. Ewell (VK3SJ), 77 Mole Street, Hobart, Tasmania.

Northern Zone Correspondent.—M. H. Kilby, VK3RE, 5 Galvin Street, Launceston.

31Q—Carlbrook, c/o, 80V  
31Q—13 Macdonald Street, Colac.  
31M—1010 Blair Street, Ballarat.  
31M—41 Capon Street, Ockham.  
31P—30 Munro Street, Ockham.  
31M—41 McAlister Street, Hamilton.  
31P—31 Elder Street, Melbourne.  
31P—R.A.F. Station, East Sale.  
31M—7 Plumbridge Rd., White Hills, Ben Leno.  
31M—418 Lava Street, Warrnambool.  
31LB—Springvale Road, Glen Waverley.  
31LV—38 Howitt Road, Caulfield North.  
31R—Guthrie Terrace, Leas Brock.  
VK3GII—440 Canning Highway, Melville.  
VK3IB—56 Park Street, Hobart.  
VK3V—401 Pine Street, Melbourne.  
70K—Cr Brooke & Tarnet Stn., E. Devonport.

### Deletions—

VK3AQ—Cancelled, now operating under VK3AAQ.  
2IB—Cancelled.  
3QZ—Cancelled, now operating under VK3IQ.  
3AN—Cancelled, now operating under VK3ABD.  
VK3AQZ—Cancelled, now operating under VK3IQZ.  
VK3AQZ—Cancelled.  
VK3IB—Cancelled.  
4RQ—Cancelled, now operating under VK3AQR.  
4TB—Cancelled, now operating under VK3ZZZ.  
VK3AB—Cancelled.  
51J—Cancelled, now operating under VK3AJ.  
5TR—Cancelled.  
VK3IM—Cancelled.  
VK3PZ—Cancelled.

## FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

John of ELIZAZZ admitted deriving intense interest from listening to the short wave broadcast of the first test match from Brisbane. John would not commit himself as to whether he had a previous knowledge of the game or to which team he owes his allegiance.

According to a suggestion—received from KHOC addressed to VRSA, the latter is back in Australia. QTH please?

A choice one worked by VK3LZ recently is EAZZ with QTH at Santa Cruz de Maricao, Box 190, Santa Isabel, Spanish Guinea. Angel is keen to work more VR stations and is on 14800 Kc. with shortwave c.w. daily. Time is not stated however. He QSL.



## EASTERN ZONE CONVENTION

## COALFIELDS AND LAKES

### WESTERN ZONE

**Stop Press**—The Western Zone is very pleased to welcome it's first YL operator—YKIAWH, of Warimoo. Give her a call chaps.

The nose hook-up took place as usual at 1000 hours but for once we quit early.

## CENTRAL WESTERN ZONE

NORTH EASTERN ZONE

QIZELONG RADIO CLUB CONDUCTS HUNT FOR  
HIDDEN TRANSMITTER

Members of the Club recently visited the shack of SAJT. The TX John uses is built very fine in rack and panel, v.l.o. controlled and runs 1000 watts on 80, 40, 30 and 20 meters. The RX is an Edgerton with 2000 tubes. During the evening contact was made with 6XK whom the boys had a yarn to. The 10 and 30 meter beams are mounted on a 80 ft. windmill tower mounted on top of the house.

Another visit to the house, SAJT was arranged. The power consists of 2 1/2 KW. home brew, a 6X3, F80, 1144 and a rack and panel rig for 40 and 30 meters running an 807 in the final with an input of 25 watts. The antenna is a doublet loop both bands. Feed also has a mod. sec. for 144 and 219 major mcs.



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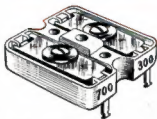


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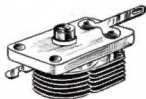
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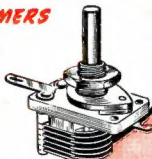
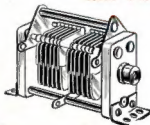


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